

Claims

1. A nucleic acid molecule having a nucleic acid sequence that encodes a linker region of exoglucanase, said nucleic acid sequence comprising the nucleotide sequence: 5'-
5 GCGGAAACCCGCCTGGCACCACC-3'.
2. The nucleic acid molecule of claim 1 wherein said exoglucanase is further defined as a cellobiohydrolase.
- 10 3. The nucleic acid molecule of claim 1 wherein said exoglucanase is further defined as a 1,4- β -cellobiohydrolase.
- 15 4. The nucleic acid molecule of claim 1 whereas said nucleic acid sequence is further defined as comprising: 5'-
5. CCTCCCGGCGGAAACCCGCCTGGCACCACCACCCGCCGCCA-3'.
- 20 6. A nucleic acid molecule having a nucleic acid sequence encoding a variant cellobiohydrolase, said nucleic acid sequence comprising a linker region sequence having a length of from about 20 nucleotides to about 50 nucleotides linker region, between a catalytic domain and a cellulose binding domain (CBD).
- 25 7. The nucleic acid molecule of claim 5 wherein the variant cellobiohydrolase is further defined as having enhanced thermostability.
8. The nucleic acid molecule of claim 5 wherein the variant cellobiohydrolase is further defined as an 1,4 β -cellobiohydrolase.
- 30 9. The nucleic acid molecule of claim 5 wherein the cellobiohydrolase is further defined as having reduced end-product inhibition.
10. The nucleic acid molecular of claim 5 wherein the linker region sequence has a length of about 24 nucleotides.

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11. A method for making an active exoglucanase in a eukaryotic heterologous host, the method comprising reducing glycosylation of the exoglucanase, wherein reducing comprises replacing an N-glycosylation site amino acid residue with non-glycosyl accepting amino acid residue.
12. The method of claim 10, wherein the N-glycosylation site amino acid residues include asparagines 45, 270, or 384 of Table 4 and the non-glycosyl accepting amino acid residue includes alanine.
- 10 13. The method of claims 10, wherein replacing comprises site-directed mutagenesis.
14. The methods of claims 10, wherein the exoglucanase comprises a cellobiohydrolase.
- 15 15. An exoglucanase, comprising of the sequence change of Table 4, N45A 5'-
GGACTCACGCTACGGCCAGCAGCACGACTGC-3'.
16. An exoglucanase, comprising of the sequence change of Table 4, N270A, 5'-
CCCATACCGCCTGGGCGCCACCAGCTTCTACGGCCC-3'
- 20 17. An exoglucanase, comprising of the sequence change of Table 4, N384A, 5'-
GGACTCCACCTACCCGACAGCCGAGACCTCCTCCACACCCG-3'
18. An exoglucanase, comprising a combination of claims 14,15,16.